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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,388	09/15/2005	Carlo Zinato	05222-PCT-PA	1935

7590 12/15/2006
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EXAMINER

MILLIKIN, ANDREW R

ART UNIT PAPER NUMBER

2892

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/549,388	Applicant(s) ZINATO, CARLO	
	Examiner Andrew Millikin	Art Unit 2892	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-21 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 12-21 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 15 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The amendment filed 15 September 2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "Some of these" on page 2; discussion of U.S. Patent Nos. 5,521,328 and 5,587,548 on pages 2-3 and 12-13; "being not...restrained" on page 4; "the current literature...parts" on page 15. Deletions are illegible; deletion on page 15 raises new matter by changing context of "without the need of using them."

Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 12 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The clause relating that "the smaller the value of a

sample of said periodic impulsive deterministic sequence is, the more said aleatory sequence's energy is concentrated in the lower frequencies" is not described in the specification as originally filed and therefore is considered to lack written disclosure. See MPEP 2163.

3. Claims 12-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The generation of a "periodic impulsive deterministic sequence" is neither clearly described in the specification nor the related prior art. Though the method of generating a periodic signal called "RATE" is described in the specification, it is unclear what is meant by "impulsive," and at times, "RATE" is referred to as being "pseudoimpulsive." Further, no method of guaranteeing that the aleatory sequence be obtained by modifying the spectrum of a random sequence according to the time progression of a periodic impulsive deterministic sequence is discussed. In addition, no method of guaranteeing that "the smaller the value of a sample of said periodic impulsive deterministic sequence is, the more said aleatory sequence's energy is concentrated in the lower frequencies" is disclosed. Likewise, no method of guaranteeing that the delay line (54) will give the closed loop's impulse response a set of resonance frequencies which are independent from the harmonic sequence's and the periodic impulsive deterministic sequence's fundamental frequencies is proposed.

Accordingly, there is no disclosure that would enable one of ordinary skill in the art at to make or use the invention without undue experimentation.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 12-17 are directed to a method but lack clear method steps and appear to describe the parts of an apparatus, while claims 18-21 are dependent upon the method of claim 12 while appearing to be directed to an apparatus. It is unclear whether a method or an apparatus is being claimed throughout the claims.
6. Claim 12 is rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite ("periodic impulsive deterministic sequence") and functional or operational language ("the smaller the value of a sample of said periodic impulsive deterministic sequence is, the more said aleatory sequence's energy is concentrated in the lower frequencies"). The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chafe (U.S. Patent No. 5,508,473) teaches a synthesizer and method for simulating period synchronous noise associated with airflows in wind instruments. Specifically, Chafe teaches the use of an aleatory sequence to simulate the noise of an organ, including delay lines (110), nonlinear elements (104), and closed loops (Fig. 6).

Kakishita (U.S. Patent No. 5,521,328) teaches an electronic musical instrument for simulating wind instrument musical tones. Specifically, Kakishita teaches using a loop circuit comprising a linear portion and a non-linear portion.

Smith (U.S. Patent No. 5,587,548) teaches a musical tone synthesis system having a shortened excitation table. Specifically, Smith teaches physical modeling by using an excitation signal fed into a closed loop of linear functional blocks, as well as resonators and impulsive sequences (Fig. 11).

Nakada (U.S. Patent No. 3,722,344) teaches an electronic musical instrument having a tone start pitch fluctuation arrangement. Specifically, Nakada teaches that electronic organs generally include a plurality of master oscillators (column 1, lines 21-27).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Millikin whose telephone number is 571-270-1265. The examiner can normally be reached on M-R 6:30-4 and 6:30-3 Alternating Fridays (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MICHAEL B. CLEVELAND
SUPERVISORY PATENT EXAMINER